Claims

1. A method for the supply of material to a processing machine (01) by means of a material supply system (02), having at least one subsystem (19, 21, 22, 24, 26, 27, 31) embodied as a storage facility (21, 26) and at least one embodied as a transport system (19, 22, 24, 27, 31), wherein the transport system (19, 22, 24, 27, 31) is controlled by a control system (05), characterized in that actual production data from the processing machine (01) and production-relevant planning data from a product planning system (03) are sent to the control system (05), that it receives stock data regarding the storage facility (21, 26), and that by means of the mentioned data a supply strategy for supplying the processing machine (01) with rolls is developed in the control system (05) and the control system (05) monitors and/or manages the contents of the storage facility.

2. The method in accordance with claim 1, characterized in that the transmission takes place via at least one fixed signal connection (16, 42, 43) between a management level (11) of the processing machine (01) and the control system (05).

3. The method in accordance with claim 1, characterized in that the transmission takes place via at least one fixed signal connection (16, 42, 43) between the product planning system (03) and the control system.

4. The method in accordance with claim 1, characterized in that the transmission takes place via a network (09, 43).

5. The method in accordance with claim 1, characterized in that the control system (05) controls the at least one subsystem (19, 21, 22, 24, 26, 27, 31) on the basis of the transmitted data.

6. The method in accordance with claim 4, characterized in that the transmission of the data from the processing machine (01) and/or the product planning system (03) to the control system (05), as well as the communication of the control system (05) with the subsystem (19, 21, 22, 24, 26, 27, 31) takes place via a common network (43).

7. The method in accordance with claim 1, characterized in that information regarding a planned production is transmitted as production-relevant data.

8. The method in accordance with claim 7, characterized in that information regarding the identification of the production, the circumference, the time window and/or the locations of use of the planned production is transmitted.

9. The method in accordance with claim 1, characterized in that information regarding an actual status of the running production is transmitted as production-relevant data.

10. The method in accordance with claim 9, characterized in that information regarding the identification of the running production, as well as to the assignment of the production to roll changers (06) and or sections (A, B) are transmitted.

11. The method in accordance with claim 1, characterized in that a transmission of transport-relevant data or those relating to the status of a roll changer (06) takes place via at least one fixed signal connection (16, 42, 43) between the control system (05) and a control device (35) of the roll changer (06) and/or an inner loading circuit (31).

12. The method in accordance with claim 11 and one of claims 2 or 3, characterized in that the transmission of the production-relevant data takes place via the signal connection (43) to the management level (11) or to the product planning system (03), and/or the transmission of transport-relevant data or those relating to the status of a roll changer (06) via a signal connection (42), which is different from the signal connection (43).

13. The method in accordance with claim 11 and one of claims 2 or 3, characterized in that the transmission of the production-relevant data, as well as the transmission of transport-relevant data or those relating to the status of a roll changer (06) takes place via the signal connection (43) between the control system (05) and the management level (11).

14. The method in accordance with claim 1, characterized in that a consumption calculation takes place in the control system (05) on the basis of production-relevant data.

15. The method in accordance with claim 1, characterized in that a monitoring of stored stock of rolls takes place in the control system (05).

16. The method in accordance with claim 1, characterized in that a strategy for supplying the processing machine (01) with rolls is developed in the control system (05).

17. The method in accordance with claim 1, characterized in that a flow control of the lower-order systems (19, 21, 22, 24, 26, 27, 31) takes place in the control system (05).

18. The method in accordance with claim 1, characterized in that the control system addresses transport orders to the lower-order systems (19, 21, 22, 24, 26, 27, 31).

19. The method in accordance with claim 1, characterized in that the control system (05) assumes the movement control and the storage space management of the lower-order systems (19, 21, 22, 24, 26, 27, 31).

20. The method in accordance with one or several of claims 14 to 16, characterized in that the consumption calculation, the stock monitoring and/or the development of the supply strategy takes place on a planning level (38) of the control system (05).

21. The method in accordance with one or several of claims 17 to 19, characterized in that the flow control, the issuing of transport orders, the movement control of the roll and/or the storage space management takes place on a coordination level (38) of the control system (05).

22. A device for the supply of material to a processing machine (01), wherein a material supply system (02) with at least one lower-order subsystem (19, 21, 22, 24, 26, 27, 31), as well as a control system (05) controlling the subsystem (19, 21, 22, 24, 26, 27, 31) with a computing and/or data processing unit (17), are provided, and wherein the control system is connected via at least one signal connection (16, 20, 42, 43) with the processing machine (01) and/or a product planning system (03), characterized in that the control system (05) has a planning level (38) and a coordination level (09), that the coordination level (09) has an interface with the at least one subsystem (19, 21, 22, 24, 26, 27, 31), and the planning level (38) has an interface with a management level (11) of the processing machine (01) and/or of the product planning system (03).

23. The device in accordance with claim 22, characterized in that the subsystems (19, 21, 22, 24, 26, 27) of the material supply system (02) only have an interface with the coordination level (39).

24. The device in accordance with claim 22, characterized in that only the planning level (38) of the control system (05) has an interface with the production planning system (03) and/or the management level (11) of the processing machine (01).

25. A device for the supply of material to a processing machine (01), wherein a material supply system (02) with at least one lower-order subsystem (19, 21, 22, 24, 26, 27, 31), as well as a control system (05) controlling the subsystem (19, 21, 22, 24, 26, 27, 31) with a computing and/or data processing unit (17), are provided, and wherein the control system is connected via at least one signal connection (16, 20, 42, 43) with the processing machine (01) and/or a product planning system (03), characterized in that for transmitting product-relevant data and/or planning data there is at least one fixed signal connection (16, 20, 42, 43, 47) between a management level (11) and/or the product planning system (03) of the processing machine (01), and for transmitting transport-relevant data and/or data relating to the status of a roll changer (06) there is at least one fixed signal connection (16, 09, 42, 43) between the control system (05) and a control device (35) of the roll changer (06) and/or the inner loading circuit (31).

26. The device in accordance with claim 25, characterized in that the signal connection (16, 20, 43, 47) between a management level (11) and/or the product planning system (03) and the signal connection (09, 16, 42) between the control system (05) and the control device (35) of the roll changer (06) are embodied as signal connections (42, 43, 47) which are at least parallel over portions and separate.

27. The device in accordance with claim 26, characterized in that the signal connection (16, 43) to the management level (11) and/or the production system and the signal connection (42) to the control device (35) of the roll changer (06) are embodied as signal connections (16, 42, 43) which are different from each other and separate.

28. The device in accordance with claim 25, characterized in that for the transmission of production-relevant data there is at least one fixed signal connection (16, 42, 43) between a management level (11) and/or the production planning system (03) of the processing machine (01) and the control system (05), and that for transmitting transport-relevant data and/or data relating to the status of a roll changer (06) there is a signal connection for the communication between the roll changer (06), or an inner loading circuit (31), and the control system (05) via a printing press-internal network (09) to the managing level (11), and from there via the signal connection (16, 42, 43) to the control system (05).

29. The device in accordance with claim 25, characterized in that for transmitting transport-relevant data and/or data relating to the status of a roll changer (06) there is a signal connection for the communication between the roll changer (06), or an inner loading circuit (31), and the control system (05), and that for the transmission of production-relevant data between the management level (11) and/or the production planning system (03) of the processing machine (01) and the control system (05) there is a signal connection via a printing press-internal network (09) to the control (05) and from there via the signal connection (42) to the control system (05).

30. The device in accordance with claim 22, 25, 26 or 28, characterized in that the signal connection (16, 43) from a management level (11) of the processing machine (01) and/or from the product planning system (03) to the control system (05), as well as a signal connection (15, 43) from the control system (05) to the subsystem, is embodied as a homogeneous network (43), i.e. a continuous connection based on the same protocol exists.

31. The device in accordance with claim 22 or 25, characterized in that a logical device for determining the demand by using transmitted production-relevant data is implemented in the control system (05).

32. The device in accordance with claim 22, 25, 26 or 28, characterized in that the signal connection (09, 16, 20, 42, 43) is embodied at least in part as a network (09, 16, 20, 42, 43).

33. The device in accordance with claim 25, characterized in that the signal connection (43) between the management level (11) of the processing machine (01) and/or the product planning system (03) and the control system (05) and the control device (35) of the roll changer (06) and/or the inner loading circuit (31) are based on networks (09, 43) of types which differ from each other.

34. The device in accordance with claim 26, characterized in that the signal connection (43) between the management level (11) of the processing machine (01) and/or the product planning system (03) and the control system (05) and the signal connection (42) between the control device (35) of the roll changer (06) and/or the inner loading circuit (31) are based on networks (09, 43) of types which differ from each other.

35. The device in accordance with claim 22, 25, 26 or 28, characterized in that the signal connection (43) between the management level (11) of the processing machine (01) and/or the product planning system (03), the control system (05) and the subsystem is embodied as a rapid network (43) with a statistical access method.

36. The device in accordance with claim 25, characterized in that the control device (35) of the roll changer (06) and/or the inner loading circuit (31) is integrated into a machine-internal network (09) with a deterministic access method.

37. The device in accordance with claim 25, 26 or 28, characterized in that a protocol converter (41) is arranged between the control device (35) of the roll changer (06) and/or the inner loading circuit (31) and the control system (03).

38. The device in accordance with claim 22, 25, 26 or 28, characterized in that the control system (05) has a planning level (38) and a coordination level (39).

39. The device in accordance with claim 22 or 25, characterized in that the subsystem has its own control device (34) for the autonomous performance of tasks specified by the control system (05).

40. The device in accordance with claim 22 or 25, characterized in that the material supply system has at least one subsystem (19, 21, 22, 24, 26, 27, 31) embodied as a transport system (19, 22, 24, 27, 31) and a subsystem (19, 22, 24, 27, 31) embodied as a storage facility (21, 26), which can be charged with control commands by the control system (05), in particular a coordination level (39) of the control system (05).

41. The device in accordance with claim 22, 25 or 40, characterized in that software for managing a subsystem (21, 26) embodied as a storage facility (21, 26) is implemented in the control system (05), in particular in a coordination level (39).

42. The device in accordance with claim 22, 25 or 40, characterized in that the control system (05), in particular a coordination level (39), has an interface with a storage facility management system, which is assigned to a subsystem (21, 26) embodied as a storage facility (21, 26).

43. The method in accordance with claim 1 or the device in accordance with claim 25, characterized in that the processing machine (01) is embodied as a printing press (01), and the material supply system as a roll supply system (02).

44. A control system (05) for controlling the material flow in a material supply system (02), having at least one lower-order subsystem, characterized in that the control system (05) has a planning level (38) and a coordination level (39), wherein a planning strategy is developed on the planning level (38) and a flow control of the at least one subsystem is performed on the coordination level (39).

45. The control system (05) in accordance with claim 44, characterized in that the at least one subsystem receives orders for transporting only from the coordination level (39).

46. A print shop with a printing press (01), a roll supply system (02), and a control system (05), which is connected with the printing press (01) and the roll supply system (02), characterized in that the control system (05) in relation to the roll supply regarding decisions, and the demand determination is on a higher order than the roll supply system (02) and the printing press (01).

47. The print shop in accordance with claim 46, characterized in that it has a product planning system (03), which is also in a signal connection (20) with the control system (05).

48. The print shop in accordance with claim 46, characterized in that it has a device in accordance with one or several of claims 22 to 43 for material supply.

49. The print shop in accordance with claim 46, characterized in that the control system (05) is embodied in accordance with one or several of claims 44 to 45.